ACM3000

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OPERATOR GUIDE

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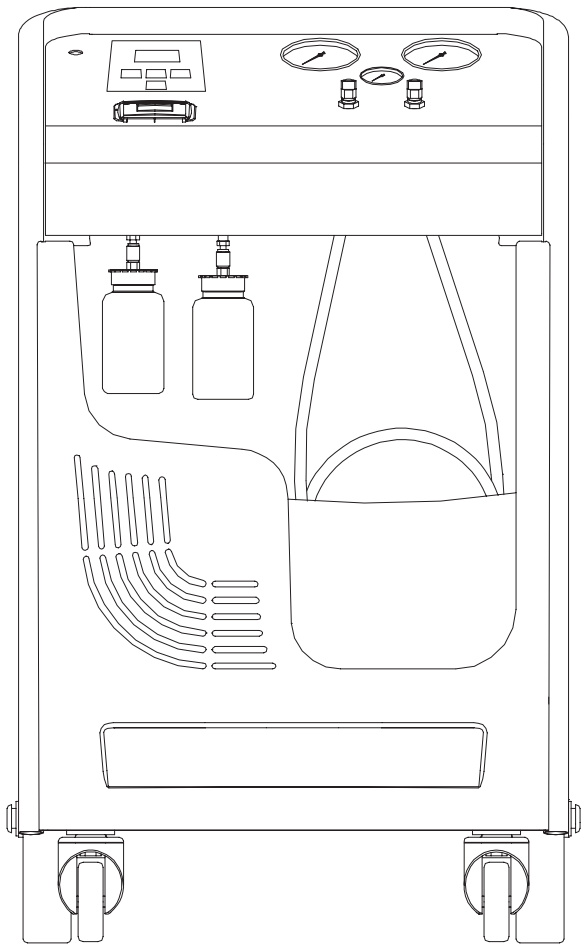

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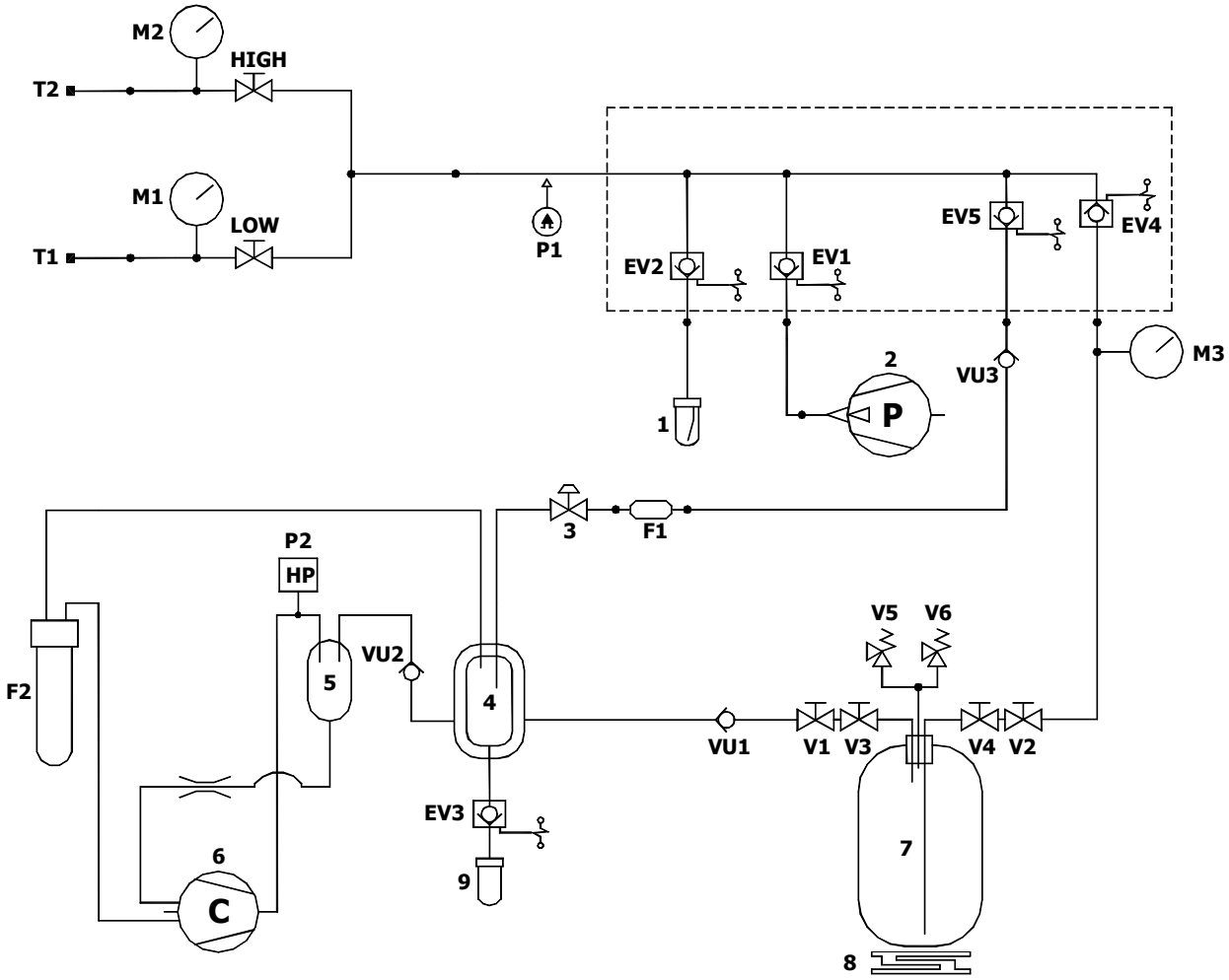
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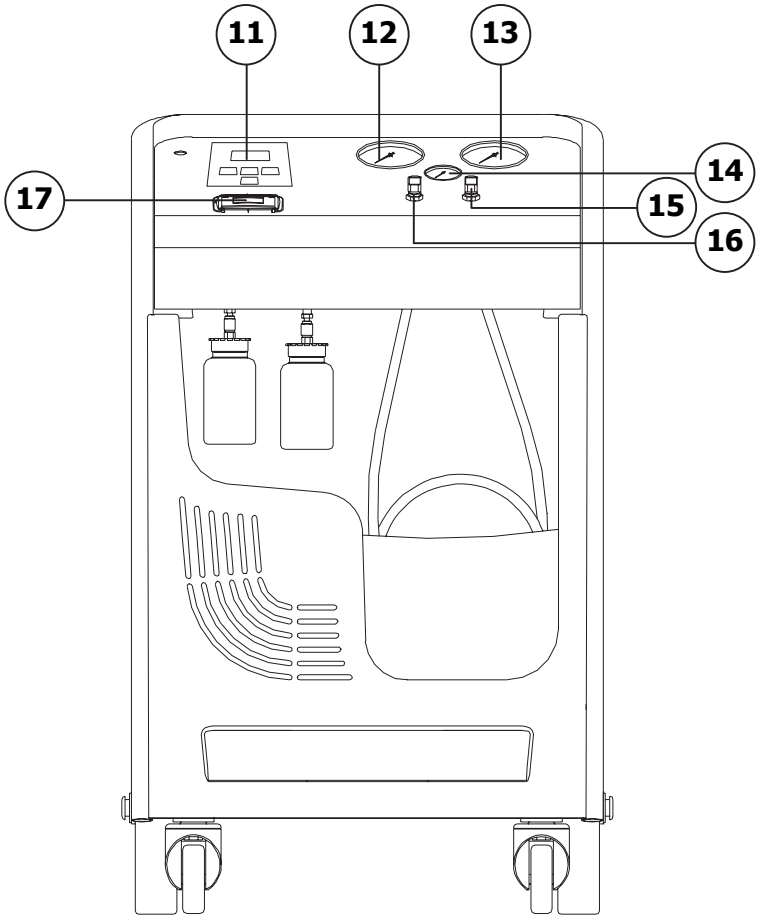
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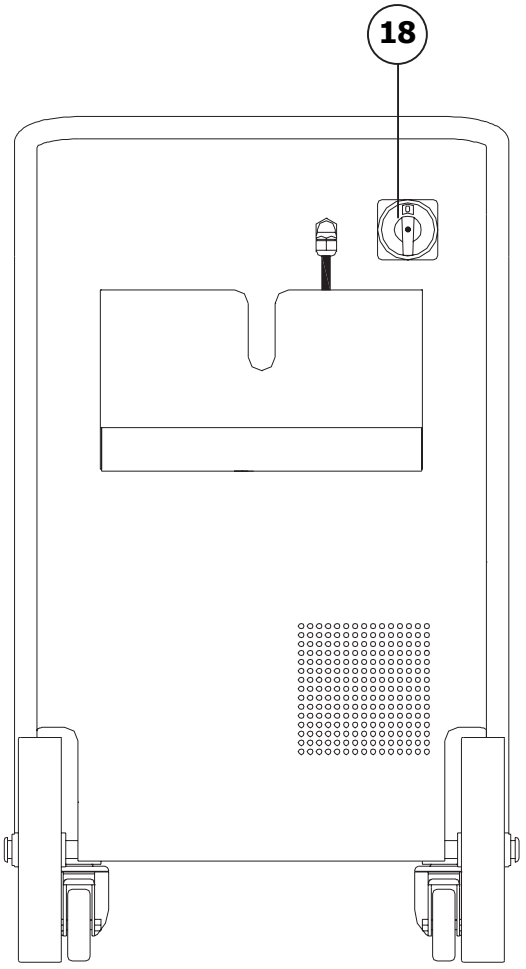
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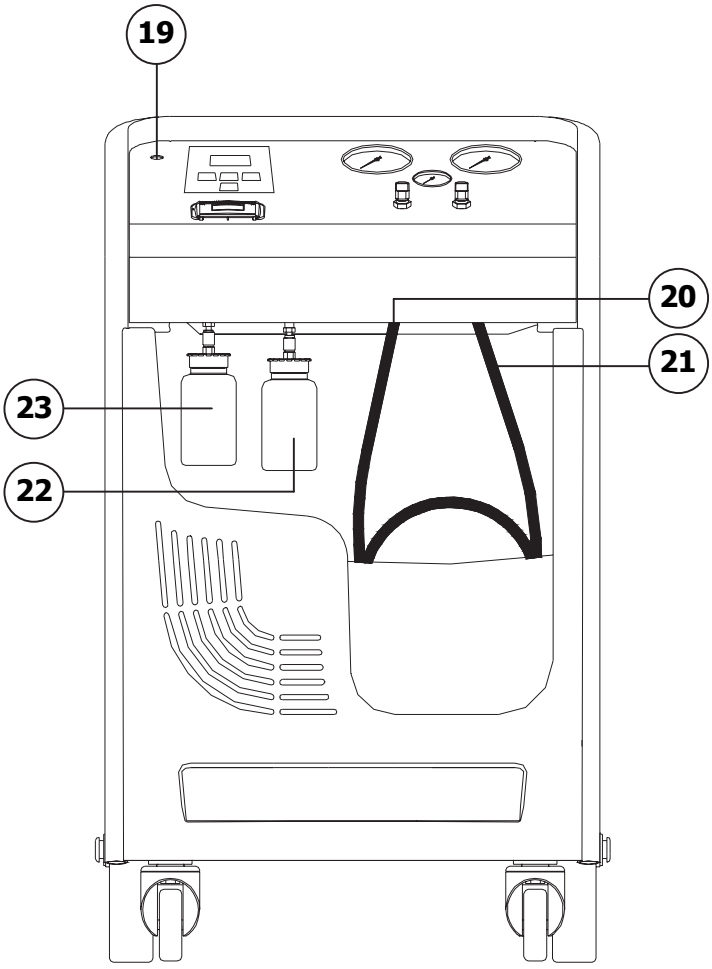
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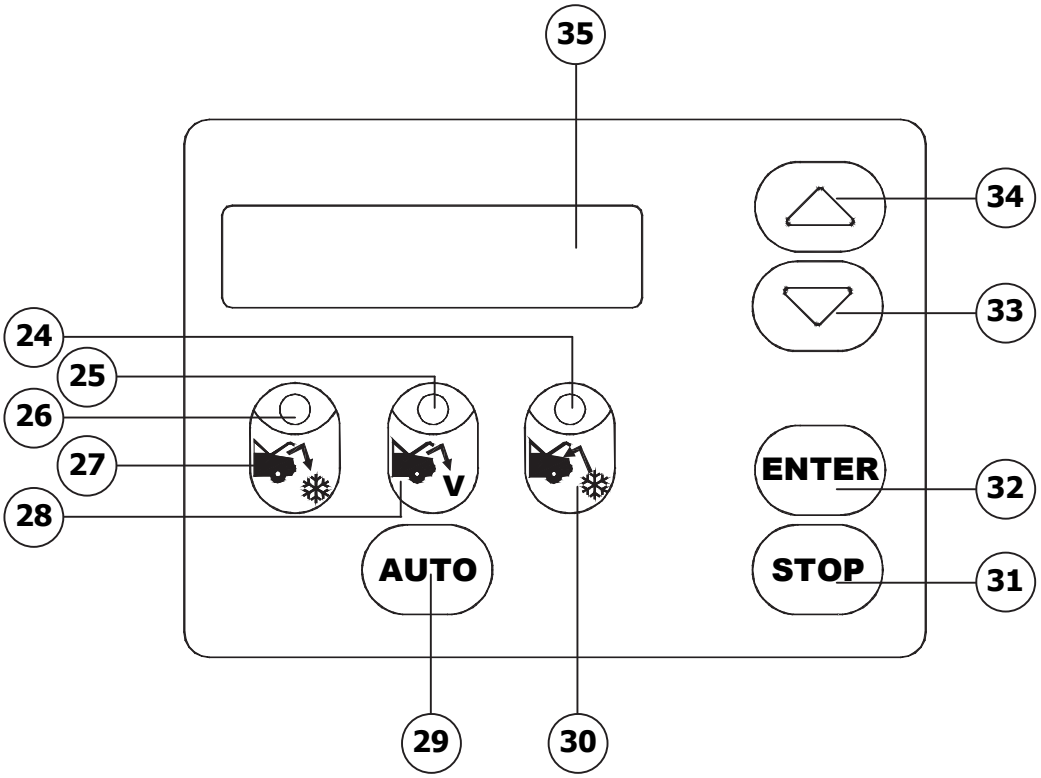
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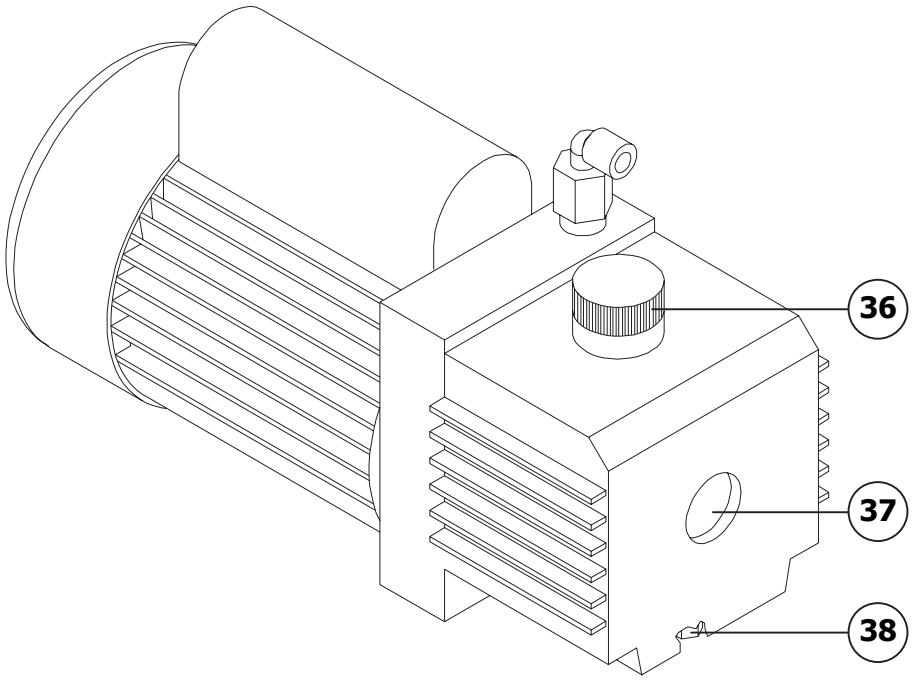
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Dear garage owner,

Thank you for having chosen one of our instruments for your workshop. We are certain that it will give the utmost satisfaction and be a notable help on the job.

Please become fully familiar with the instructions in this user's manual. It should be kept ready to hand for consultation whenever required.

ACM3000 is an electronic unit for recovery, recycle, vacuum and charge of A/C systems using R134a as refrigerant.

A simple but reliable connection system guarantees a safe work during all of the operations: refrigerant recovery and recycle; vacuum and leak test; lubricant injection; circuit recharge and working pressure test.

The refrigerant flow is controlled and managed by an electronic scale so as to prevent any tank overflow or the flow of a refrigerant quantity exceeding that allowed.

A patented separator still allows to separate the refrigerant from the lubricant.

- It is forbidden to even partially this handbook in any way unless prior written authorisation has been obtained from the manufacturer.
- The data and characteristics indicated in this handbook are not binding. The manufacturer reserves the right to make all those modifications as are considered necessary without being obliged to give advance warning or make replacements.
- All the names of brands and products and the trade marks are the property of the respective owners.

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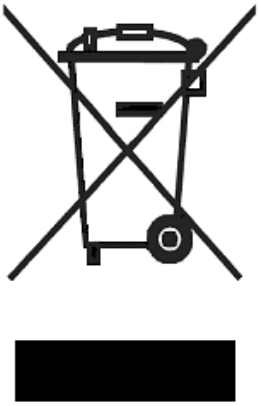
CAPTIONS

M1	Low pressure gauge
M2	High pressure gauge
M3	Inside tank pressure meter
T1	Low pressure service hose
T2	High pressure service hose
LOW	Manifold set low pressure valve
HIGH	Manifold set high pressure valve
V1	Tank vapour side hose valve
V2	Tank liquid side hose valve
V3	Tank vapour side valve
V4	Tank liquid side valve
V5	Safety valve
V6	Non condensable drain valve
VU1	Bottle inlet unidirectional valve
VU2	Separator-still check valve
VU3	Recovery line unidirectional valve
F1	Recovery line mechanic filter
F2	Dehydrating filter
EV1	Vacuum line solenoid valve
EV2	Oil addition solenoid valve
EV3	Oil purge solenoid valve
EV4	Charge solenoid valve
EV5	Recovery/Recycle solenoid valve
1	Oil replenishing bottle
2	Vacuum pump
3	Pressure adjuster
4	Separator-still for recovered oil
5	Separator-still for compressor oil
6	Compressor
7	Storage tank
8	Electronic scale
9	Oil purge bottle
P1	Pressure transducer
P2	High pressure switch

GENERAL INFORMATION FOR THE USER

Disposing of equipment



- Do not dispose of this equipment as miscellaneous solid municipal waste but arrange to have collected separately.
- The re-use or correct recycling of the electronic equipment (EEE) is important in order to protect the environment and the wellbeing of humans.
- In accordance with European Directive WEEE 2002/96/EC, special collection points are available to witch to deliver waste electrical and electronic equipment.
- The public administration and producers of electrical and electronic equipment are involved in facilitating the processes of the re-use and recovery of waste electrical and electronic equipment through the organisation of collection activities and the use of appropriate planning arrangements.
- Unauthorised disposal of waste electrical and electronic equipment is punishable by law with appropriate penalties.

Disposing of batteries

- Batteries must be recycled or disposed of properly. Do not throw batteries away as part of normal refuse disposal.
- Do no throw batteries into open flame!

1.0 - FOR A SAFE USE ACM3000

The advanced technology adopted in the design and production of the ACM3000 make this equipment extremely simple and reliable in the performance of all procedures. Therefore, the user is not exposed to any risk if the general safety rules reported below are followed with proper use and maintenance of the equipment.

NOTA BENE:
This unit can be exclusively used by professionally trained operators who have to know the principles of refrigeration, refrigerating systems and gases and the possible damages which might be caused by pressurized equipment.
Every user has to read carefully this manual for a correct and safe use of the equipment.

1.1 - For a safe use

- It is necessary to wear suitable protections such as goggles and gloves, the contact with the refrigerant can cause blindness as well as other injuries to the operator. Please make reference to the symbols below:

Carefully read the instructions.

Do not use open air in case of rain or high humidity.

Use gloves.

Use protection goggles.

- Avoid the contact with the skin, the low boiling temperature (about -30 °C) may provoke freezing.
- Do not inhale refrigerating gases fumes.
- Before connecting the ACM3000 unit to an A/C system or to an external tank, make sure all the valves are closed.

- Ensure that the phase has been completed and that all valves are closed before disconnecting the unit ACM3000. This will prevent release of the refrigerant into the atmosphere.

- Do not change the safety valve or control system settings.

- Do not use external tanks or other storage tanks that have not been type-approved or that lack safety valves.

- Never leave the unit live if an immediate use is not scheduled, stop the electrical supply before a long period of unit inactivity or before internal maintenance interventions.

- Be careful while servicing the unit since connecting hoses may contain pressurized refrigerant.

- Do not use the unit in explosive environments.

Extraordinary maintenance interventions have to be performed by authorized staff only.

- Pressure of leaks of the HCF-134a service equipment or of the air conditioning systems of the vehicle must not be tested by using compressed air. Some air/HCF-134a mixtures can burn at high pressures. These mixtures can be dangerous and may cause fires or explosions and subsequent injuries or damages.

Further information on the operators' health and safety can be obtained from the refrigerant producers.

1.2 - Safety devices

The ACM3000 is equipped with the following safety devices:

- **Overpressure valves**.
- Besides the overpressure valve a **maximum pressure switch** has been fitted which stops the compressor in case of excessive pressure.

ATTENTION:
Any type of tampering with the safety devices mentioned above is hereby prohibited.

1.3 - The work environment

- The unit has to work in a sufficiently ventilated environment.

ATTENTION:
Work far from free flames and hot surfaces; at high temperatures the refrigerant decomposes freeing toxic and aggressive substances which are noxious for the user and the environment.

- For a correct functioning the unit has to work on an even surface; during short handling do not shake it.

- Do not subject the ACM3000 unit to vibration.

ATTENTION:
While operating do not disperse the refrigerant in the environment. **Such a precaution**, **besides being required by the international rules for the environment protection**, **is necessary to prevent the possible presence of refrigerant in the working environment from making it difficult to detect possible leaks**.

- Work in environments with sufficient lighting.

- Avoid inhalation of the refrigerants and oils in the A/C systems. Exposure may cause irritation to eyes and the respiratory tract. To remove R134a from the A/C system, use only the special recycling-units for R134a. If the refrigerant is accidentally released into the atmosphere, ventilate the work area before resuming service.

- Do not use the unit under direct sunrays; sun exposure can cause excessive temperatures and malfunctioning. Working temperatures indicated refer to the unit being not directly exposed to the sun.

2.0 - INTRODUCTION TO THE UNIT

The ACM3000 unit fits all of the air-conditioners functioning with R134a refrigerant located on cars, trucks and industrial vehicles.

The ACM3000 unit microprocessor allows the managing of all functions by means of an electronic scale, a LCD to display the weight or minute values and the help messages of the various procedures which can be set, a control board with keyboard.

By connecting the ACM3000 unit to an A/C system the refrigerating gas can be recovered and recycled to enter the system itself again after a correct vacuum.

The amount of lubricant taken from the A/C system during the recovery can be measured and, afterwards, reintegrated in the system.
The unit is equipped with a one-stage pump for high vacuum and a manifold set to continuously monitor the operations in process.
Tightness test on the A/C units is carried out through the manometers the unit is equipped with.

The unit is equipped with special connectors to avoid cross-mixing with systems using R12.

ATTENTION:
Do not try to adapt this unit for air conditioning systems using R12.

3.0 - DESCRIPTION OF THE UNIT

11. Keyboard.

12. Low pressure gauge.

13. High pressure gauge.

14. Inside tank pressure meter.

15. High pressure valve.

16. Low pressure valve.

17. Printer (optional).

18. Main power switch.

19. Port for software updates.

20. Low side connection hose.

21. High side connection hose.

22. Oil injector glass.

23. Oil drain glass.

3.1 - The Keyboard

24. CHARGE function Led.

25. VACUUM function Led.

26. RECOVERY function Led.

27. RECOVERY function key.

28. VACUUM function key.

29. AUTOMATIC function key.

30. CHARGE function key.

31. STOP key.

32. ENTER key.

33. Downwards cursor shifting key.

34. Upwards cursor shifting key.

35. Display.

4.0 - INSTALLATION OF THE UNIT

Please find below operations to perform to start the unit.

4.1 - Unpacking and checking components

- Remove the machine packaging.
- Check to ensure that all of the accessory components are present:
  - ✓ Operating instructions.
  - ✓ 2 cylinder connectors.
  - ✓ Bottle safety valve conformity certificate.

4.2 - Machine handling and storage

Remove the unit from the base pallet of the packaging.
The unit is moved on the four wheels. The two front wheels have brakes.
On rough terrain, the ACM3000 can be moved by tilting it and balancing the weight on the two rear wheels.
In spite of the fact that the heaviest components have been assembled on the base in order to lower the centre of gravity, it has not been possible to eliminate the **risk of overturning** completely.

4.3 - Preparation for use

Before starting to use the ACM3000 unit, it is possible to personalize it.
These settings are not compulsory on the standard models.
To personalize the A/C unit comply with the following procedure:

- Turn on the unit and wait until the STAND-BY page is displayed (amount of coolant in the bottle).
- Simultaneously press the cursor shifting keys upwards (**34**) and downwards (**33**) for some seconds.
- A menu is displayed containing the operations that may be carried out.
- Press the upwards cursor shifting key (**34**) or the downwards cursor shifting key (**33**) to scroll the menu.
- Select the wished function and press **ENTER** (**32**) to enter.
- Press **STOP** (**31**) to go back to the STAND-BY page.

LANGUAGE CHANGE

- Select the **LANGUAGE CHANGE** function and press **ENTER**.
- The list of languages available in memory is displayed.
- Press the upwards cursor shifting key (**34**) or the downwards cursor shifting key (**33**) to scroll the menu and press **ENTER** to set the selected language.
- Then the main menu is displayed again.

UNITS OF MEASURE

- Select the **UNITS OF MEASURE** function and press **ENTER**.
- The list of units of measure being available in memory is displayed.
- Press the upwards cursor shifting key (**34**) or the downwards cursor shifting key (**33**) to scroll the menu and press **ENTER** to set the selected unit of measure.
- Then the main menu is displayed again.

CONTRAST

- Select the **CONTRAST** function and press **ENTER**.
- Press the upwards cursor shifting key (**34**) or the downwards cursor shifting key (**33**) to modify the contrast and press **ENTER** to confirm.
- Then the main menu is displayed again.

4.4 - Bottle filling

Before being able to use the unit, after personalizing it, it is necessary to inject some coolant in the inner bottle. Comply with the following procedure:

- Connect the service pipe to an external container full of coolant (use the supplied unions).

NOTA BENE:
There are two types of source tanks: one **with a liquid outlet** and one **without**.
Tanks **with liquid outlets** must remain in an upright position in order to transfer the liquid refrigerant. Use the **LIQUID** valve connection for this type of tank.
Tanks **without liquid outlets** are usually equipped with only one valve and have to be overturned to transfer the liquid refrigerant.

- Open the valve on the external bottle and on the service pipe.
- Open the high and low pressure valves on the unit.
- Simultaneously press the cursor shifting keys upwards (**34**) and downwards (**33**) for some seconds.
- The functions menu is displayed.
- Press the upwards cursor shifting key (**34**) or the downwards cursor shifting key (**33**) to select the **BOTTLE FILLING** and press **ENTER** to confirm.
- The display shows the tank available capacity.
- Press the **ENTER** key to continue.
- Set the amount of coolant that you wish to inject (it is advisable to inject about 4 kg).
- Press **ENTER** to start the operation.
- The unit automatically stops once reached the set value.
- Close the valve on the source tank.
- Press **ENTER** to complete the operation and empty the pipes and the still separator.

NOTA BENE:
Usually the final amount of coolant recovered is greater than the set quantity, since also the still separator and the hoses are emptied.

- The function stops automatically when pressure is over in the system.
- The STAND-BY page is displayed.
- Close the valves on the unit.

5.0 - USE OF THE UNIT

Find below the description of the unit functions.

5.1 - Refrigerant recovery

ATTENTION:
Always wear protection goggles and gloves when working with refrigerant. Read and comply with warnings at the beginning of this manual before using the unit.

In order to recover the coolant present in the A/C system, carry out the following procedure:

- Connect the **T1** low pressure and **T2** high pressure hoses of the A/C system.
- Open the valves on the hose quick couplers **T1** and **T2**.
- Open the high and low pressure valves on the unit.
- Press the **RECOVERY** key (**27**), the maximum amount of coolant that may be recovered is displayed.
- The function is not started in case of lack of pressure in the system; in this case a message is displayed to inform the operator.
- Press **ENTER** to start the function; the self-cleaning function is thus started.

NOTA BENE:
This function is useful to ensure a correct weighing of the recovered coolant. The self-cleaning function can be by-passed by holding down the **RECOVERY** key for some seconds.

- When the self-cleaning is over, the refrigerant recovery starts.

NOTA BENE:
The function stops automatically when the pressure inside the system drops below 0 bar.

- At the end of recovery the oil is automatically drained and the pressure values are checked.
- When the waiting time is over:
  - ✓ The function restarts automatically, if pressure has increased.
  - ✓ The display shows the amount of recovered refrigerant, if the pressure value has not changed.
- Close the valves on the unit.
- Press **STOP** to go back to the STAND-BY page.

NOTA BENE:

For the units equipped with printer (optional), after the display of data, comply with the following procedure:

- ✓ Enter the value of recovered oil by using the cursor upwards/downwards shifting key and then press **ENTER** to confirm.
- ✓ Press the **ENTER** key to print.
- ✓ Press the **STOP** key to exit.

5.2 - Evacuating the A/C system

NOTA BENE:

If the vacuum pump has run for more than 50 hours the message **CHANGE OIL** appears. Carry out the maintenance according to the procedures described in the relevant section.

- Open the high and low pressure valves on the unit.
- Press the **VACUUM** key (**28**).
- The function is not started in case of pressure presence in the system; in this case a message is displayed to inform the operator.
- Enter the wished vacuum time by using the cursor upwards/downwards shifting key.
- Press **ENTER** to confirm and start the function.
- When the vacuum time is over the pressure values check time starts. At the end of this time the check result is displayed showing whether leaks have been detected on the system.
- Close the valves on the unit.
- Press **STOP** to go back to the STAND-BY page.

NOTA BENE:

For the units equipped with printer (optional), after displaying the result of the test it is possible to carry out the following procedure:

- ✓ Press the **ENTER** key to print.
- ✓ Press the **STOP** key to exit.

5.3 - Oil injection and A/C system charge

ATTENTION:
This function must be performed only on A/C systems under vacuum (following a system evacuation function). At the end of the oil injection function, following a filling function.
Charge the oil from the high side only. In case of systems equipped with low side fitting only (LOW), wait at least 10 minutes before starting the A/C system after the charge.

- Check that the service pipes are connected and that their valves are open.
- Press the **CHARGE** key (**30**).
- Enter the amount of coolant to be charged by using the cursor upwards / downwards shifting key and press **ENTER** to go on.
- The display prompts to fill in the oil.
  - ✓ If you wish to fill in the oil, press the **AUTO** key and check on the oil bottle the charged amount. Press **ENTER** to start charging the oil.
  - ✓ If you do not wish to charge the oil, press **ENTER** to start the charge.
- The unit carries out the coolant charge and at the end displays the value of the charged coolant.
- To verify if the circuit is efficient, you need to check the functioning pressures.
- Close the valves on the unit.

ATTENTION:
Failure to close the valves may cause errors, malfunction or damage of the internal components.

- Switch On the car and the A/C system.
- Check pressure values.
- Switch Off the A/C system and the car.

NOTA BENE:
For the units equipped with printer (optional), after the display of the charged coolant carry out the following procedure:

- ✓ Enter the charged oil value by using the cursor upwards / downwards shifting key and press **ENTER** to confirm.
- ✓ Press the **ENTER** key to print.
- ✓ Press the **STOP** key to exit.

5.4 - How to disconnect from the A/C system

In order to disconnect from the A/C system of the vehicle comply with the following procedure:

- Close the valve on the high pressure quick coupler placed on the vehicle.
- Open the high and low pressure valves on the unit.
- Switch On the car and the A/C system.
- Make sure the pressure on the manometers stabilizes to about 1-2 bars.
- Close the valve on the low pressure quick coupler placed on the vehicle.
- Switch Off the A/C system and the car.
- Disconnect the hoses from the A/C system.
- Carry out a recovery to empty the hoses from residual coolant.

5.5 - Automatic function

This function allows carrying out recovery, vacuum, and charge functions in automatic function.

ATTENTION:
For cars equipped with a single service fitting the charge function should be carried out manually by following the procedure suggested by the manufacturer.

To carry out the automatic function:

- Connect the **T1** low pressure and **T2** high pressure hoses of the A/C system.
- Open the valves on the hose quick couplers **T1** and **T2**.
- Open the high and low pressure valves on the unit.
- Press the **AUTOMATIC** function key (**29**).
- The display requires the entry of the vacuum time.
- Enter the value and press **ENTER** to confirm (comply with the procedure described in chapter 5.2).

- The display requires the entry of the amount of refrigerant to be charged (comply with the procedure described in chapter 5.3) and press **ENTER** to confirm.

- The function is started and goes on automatically until the vacuum function is ended.

- The display prompts to fill in the oil.
  - ✓ If you wish to fill in the oil, press the **AUTO** key and check on the oil bottle the charged amount. Press **ENTER** to start charging the oil.
  - ✓ If you do not wish to charge the oil, press **ENTER** to start the charge.

NOTA BENE:
In case of errors, the station stops and displays the relevant error message.

- To verify if the circuit is efficient, you need to check the functioning pressures.

- Close the valves on the unit.

ATTENTION:
Failure to close the valves may cause errors, malfunction or damage of the internal components.

- Switch On the car and the A/C system.

- Check pressure values.

- Switch Off the A/C system and the car.

- Carry out the disconnection procedure as described in chapter 5.4.

NOTA BENE:
For the units equipped with printer (optional), after the display of data, comply with the following procedure:

- ✓ Enter the value of recovered oil by using the cursor upwards/downwards shifting key and then press **ENTER** to confirm.
- ✓ Enter the charged oil value by using the cursor upwards / downwards shifting key and press **ENTER** to confirm.
- ✓ Press the **ENTER** key to print.
- ✓ Press the **STOP** key to exit.

5.6 - Recycling function

ATTENTION:
During the recycling function keep the high and low valves closed on the station.

- Simultaneously press the cursor shifting keys upwards (**34**) and downwards (**33**) for some seconds.
- The functions menu is displayed.
- Press the upwards cursor shifting key (**34**) or the downwards cursor shifting key (**33**) to select either **RECYCLING** and press **ENTER** to confirm.
- The function is self-limited to 60 minutes.
- Press **STOP** to stop the function.
- The function stops automatically after the complete draining of the internal circuit.

5.7 - Incomplete charge

- Close the high side quick coupler valve on the **T2** service hose on the A/C system.
- Start the vehicle system.
- Open the high and low pressure valves on the unit.
- Press **ENTER** to complete the charge.
- Let the residual refrigerant be sucked until manifold gauges show a pressure of about 1-2 bar.
- Close the low side quick coupler valve on the **T1** service hose on the A/C system.
- Turn off the vehicle and disconnect the unit from the vehicle.
- Close the valves on the unit.

ATTENTION:
Disconnect the flexible hoses with extreme caution. All of the flexible hoses can contain liquid refrigerant under pressure. Before using the equipment read and follow carefully the instructions at the beginning of this manual.

6.0 - DISPLAYED MESSAGES

6.1 - Service messages

CHANGE OIL
Vacuum pump oil change (see chapter 7.1).

CHANGE FILTER
Change filter dryer (see chapter 7.3).

6.2 - Error messages

HIGH PRESSURE
Out feed pressure from compressor is excessively high. Switch off the unit and wait for about 30 minutes. If the problem persists, apply to the Technical Service.

SOFTWARE ERROR
Error in the software, apply to the Technical Service.

FULL BOTTLE
Coolant level in the bottle reached the maximum capacity level, carry out some charges to reduce the amount of coolant inside.

SCALE RECALIBRATION
Error in scale calibration, reset it. If the error persists, apply to the Technical Service.

HIGH RECOVERY TIME
The recovery time exceeds the set safety limit. Make sure there are no leaks in the A/C system. If no leaks are detected, apply to the Technical Service.

EMPTY SYSTEM
There is no refrigerant in the A/C system.

FULL SYSTEM
The A/C system is charged with refrigerant.

INCOMPLETE CHARGE
Excessive charge time; this proves that the pressure inside the bottle is equal to the pressure inside the A/C system (see chapter 5.7).

7.0 - MAINTENANCE

The ACM3000 is a highly reliable unit built with top-quality components with the use of today's most advanced production techniques.

For these reasons, maintenance is reduced to a minimum and marked by a very low frequency of intervention. In addition, owing to the electronic control system, all periodic maintenance procedures are signalled at the prescribed time.

CHANGE OIL Change vacuum pump oil (50 hours).

CHANGE FILTER Change filter dryer.

7.1 - Vacuum pump oil change

The oil of the vacuum pump must be changed frequently in order to assure higher performances of the unit.
When the oil has to be changed, the display shows **CHANGE OIL**.
To change the oil, follow carefully these instructions:

- Disconnect the unit from the power supply.
- Open the upper cap (**36**).
- Put a beaker under the cap (**38**), open the cap and discharge the oil contained in the vacuum pump.
- When the pump is empty, screw in the cap (**38**).
- Fill the pump with the oil through the upper hole. Check the oil level in the pump through the inspection glass (**37**); level has to reach the sight glass middle line.
- When the pump is filled, close the upper cap (**36**).

7.2 - Reset oil counter vacuum pump

After having changed the oil of the vacuum pump, reset the counter.
To reset the counter follow carefully these instructions:

- Simultaneously press the **cursor upwards shifting** keys (**34**) and **AUTO** (**29**) for some seconds.
- The display shows the message **0000**.
- By using the cursor upwards /downwards shifting keys enter the value **5555** and press **ENTER** to confirm every single value that has been entered.
- After setting the code **5555**, press and hold down the **ENTER** key for some seconds.

- The functions menu is displayed.
- Press the upwards cursor shifting key (**34**) or the downwards cursor shifting key (**33**) to select either **OIL CHANGE** and press **ENTER** to confirm.

The display shows a value which corresponds to the working hours of the vacuum pump.

- Press the **ENTER** key and keep it pressed.
- When the display shows **0000** release the **ENTER** key.
- The display displays the functions menu again.
- Press **STOP** to go back to the STAND-BY page.

7.3 - Filter dryer change

The filter dryer of this unit has been designed in order to eliminate all acid residues and the high water content of the refrigerant R134a.

The filter has to be changed when the display shows the message **CHANGE FILTER**. To change correctly the filter dryer, follow carefully these instructions.

- Connect the unit to the electric power; press and hold down the **RECOVERY** key for some seconds.
- Open the high and low pressure valves on the unit.
- Wait for the end of self-cleaning.
- Let the compressor operate until the pressure indicated on the manometers has not decreased under the 0 (zero) bar value.
- The function stops automatically.
- Close the valves on the unit.
- Disconnect the unit from the electrical power supply and remove the lower front panel.

ATTENTION:
During the following phase it will be necessary to open the refrigerant circuit of the unit. Wear goggles and gloves.

- Disconnect the filter with caution and replace it with a new one.

ATTENTION:
Check that the sealing rings are in the right position.

- Set up the plastic protection again.

7.4 - Reset counter filter dryer

After the change of the filter dryer, reset the counter.
To reset the counter follow carefully these instructions:

- Simultaneously press the **cursor upwards shifting** keys and **AUTO** for some seconds.
- The display shows the message **0000**.
- By using the cursor upwards /downwards shifting keys enter the value **5555** and press **ENTER** to confirm every single value that has been entered.
- After setting the code **5555**, press and hold down the **ENTER** key for some seconds.
- The functions menu is displayed.
- Press the upwards cursor shifting key (**34**) or the downwards cursor shifting key (**33**) to select either **FILTER CHANGE** and press **ENTER** to confirm.

The display displays a value, either in kg or in Pounds, corresponding to the amount of coolant that has been filtered.

- Press the **ENTER** key and keep it pressed.
- When the display shows **0000** release the **ENTER** key.
- The display displays the functions menu again.
- Press **STOP** to go back to the STAND-BY page.

7.5 - Refrigerant scale calibration

Required equipment:

- ✓ 2 Sample weights.

After removing the front cover, remove the container to the scale plate.

NOTA BENE:
The hoses from the internal container do not have to be disconnected. If you wish to disconnect them, close the valves on the pipes and on the bottle.

- Simultaneously press the **cursor upwards shifting** keys and **AUTO** for some seconds.
- The display shows the message **0000**.
- By using the cursor upwards /downwards shifting keys enter the value **1111** and press **ENTER** to confirm every single value that has been entered.
- After setting the code **1111**, press and hold down the **ENTER** key for some seconds.
- The functions menu is displayed.
- Press the upwards cursor shifting key (**34**) or the downwards cursor shifting key (**33**) to select either **BOTTLE CALIBRATION** and press **ENTER** to confirm.
- The displays shows **ZERO WEIGHT**.
- With the scale pan being completely empty, insert the numerical value **00.00** and press the **ENTER** key (to vary the displayed value use the cursor upwards/downwards shifting key).
- The displays shows **SAMPLE WEIGHT**.
- Position the sample weight on the scale plate (the suggested weight 10 Kg).
- Enter the sample weight value and press the **ENTER** key (to vary the displayed value use the cursor upwards/downwards shifting key).
- The display displays the functions menu again.
- Press **STOP** to go back to the STAND-BY page.

8.0 - STOPPAGE FOR LONG PERIODS

- The unit must be kept in a safe place
- Ensure that the valves on the internal tank are closed.
- To resume use, follow the activation process only after reopening the internal tank valves.

9.0 - DEMOLITION/DISPOSAL

9.1 - Disposal of the equipment

At the end of the equipment's lifetime, the following procedures must be performed:

- Detach and vent the gas from the unit circuit: be sure the refrigerant tank too is completely discharged, in compliance with the rules in force.
- Deliver the unit to a disposal center.

9.2 - Disposal of the recycled materials

- The refrigerants recovered from A/C systems and which cannot be reused, must be delivered to gas suppliers for disposal as required.
- The lubricants extracted from systems must be delivered to used oil collection centres.

10.0 - TECHNICAL SPECIFICATIONS

Refrigerant:

R134

Coolant electronic scale resolution:

± 5 g

M1 M2 gauges:

Kl. 1.0

M3 gauge:

Kl. 2.5

Container capacity:

10 l

Maximum weight that can be stored:

8 Kg

Filtering station:

1 spin-on filter dryer

Supply voltage:

230 V - 50/60 Hz

Power:

550 W

Working temperature:

10°C ÷ + 50°C

Humidity: 20 ÷ 75%

Transport and storage temperature:

- 25°C ÷ + 60°C

Dimensions:

940 × 580 × 520

Weight:

60 kg approx with empty tank

Noise:

<70 dB (A)

11.0 - SPARE PARTS

Components indicated below are those necessary for routine maintenance.

Dehydrating filter	**5117486**
N°1 Vacuum pump oil bottle	**RA13119B**
Thermal paper roller (for units with printers)	**5607069**

12.0 - GLOSSARY OF TERMS

- **Refrigerant**: A refrigerant solely of the type for which the unit has been created (ex. R134a).
- **A/C system**: Air-conditioning system in the motor vehicle.
- **Unit or Station**: ACM3000 equipment for the recovery, recycling, evacuation and filling of the A/C system.
- **External tank**: Non-refillable fresh refrigerant (ex. R134a) cylinder, used to fill the refrigerant tank.
- **Refrigerant tank**: The tank specifically designed for the unit.
- **Function**: Execution of an individual function.
- **Recovery/Recycling**: Function in which the refrigerant is recovered by an A/C system and stored in the internal container.
- **Evacuation**: Function in which incondensables and moisture are evacuated from an A/C system solely by means of a vacuum pump.
- **Oil injection**: Introduction of oil inside an A/C system for the purpose of maintaining the amount of oil specified by the manufacturer.
- **Filling**: Function during which refrigerant is introduced into an A/C system in the amount specified by the manufacturer.

tecnotest TEST & MEASUREMENT SPX Corporation	**DECLARATION OF CONFORMITY** CE	**2008** No **08CE011**

SPX Italia s.r.l. - Divisione Tecnotest

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Sala Baganza (Parma) - Italy
VAT IT 01304801002

DECLARES, under our own responsibility, that the product

Description: **A/C RECOVERY AND RECHARGING SYSTEM**
Model: **ACM3000**

to which this declaration refers,
conform to the requirements of the applicable European Directive(s)

DE 2004/108/CE	**(EMC)**
DE 2006/42/CE	**(SAFETY OF MACHINERY)**
DE 2006/95/CE	**(LVD)**

has been tested and conforms to the following norms:

EN 55022 (+A1+A2)	(2003)	UNI EN ISO 12100-1	(2005)
EN 61010-1	(2001)	UNI EN ISO 12100-2	(2005)
EN 61000-6-2	(2005)	UNI EN 378-1	(2003)
EN 61000-6-3	(2001)	UNI EN 378-2	(2002)
EN 60204-1	(1998)		

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(Research & Development Manager)

Data	CE Conformity Dept.	No Dossier or TCF
16/04/2008	**Ugo Arienti**	**07FT001**